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			ART UNIT	PAPER NUMBER
			3736	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/621,196		SHACHAR, YEHOASHUA	
	<b>Examiner</b>		<b>Art Unit</b>	
	Michael Apanius		3736	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 21-30 and 51-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 31-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>121103&amp;020805</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response the amendment filed 1/13/2006. Currently, claims 1-66 are pending.

### ***Election/Restrictions***

2. Applicant's election without traverse of Invention I in the reply filed on 1/13/2006 is acknowledged.
3. Claims 21-30 and 51-66 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/13/2006.

### ***Information Disclosure Statement***

4. Citations 1-29 on the IDS of 2/8/2005 were lined out because these citations were already listed on the IDS of 12/11/2003.

### ***Drawings***

16. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the temperature and magnetic field sensors at the distal end of the tool as set forth in claims 3, 4, 33, 40 and

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41 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "910" has been used to designate both "power supply" and "current amplifier x-axis" in figure 13C. See also paragraph 128.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "system 700" (paragraph 69, line 1); "Control logic 32" (paragraph 79, line 8).

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include reference character that appear to not be mentioned in the description: for example, "2" in figure 2; "49" in figure 4; "104X" in figure 7; "104Y" in figure 8; "104Z" in figure 9; "155" in figure 10; "921", "922", "926", "929", "930" in figures 13D-13H; "800" in figure 17B; "610" and "611" in figure 18C.

8. The drawings are objected to because some figures are partially hand drawn (for example, "CONTROLLER" in figure 1A and the reference numerals in figure 16) and some figures contain what appears to be partially erased reference numerals (for example, see figure 1C near reference numeral "300"). In figures 7 and 8, reference numerals "317", "318", "316" and "319" are the incorrect reference numerals. The boxes in figures 16 and 17A must be given a descriptive label (for example, "324" should be labeled with something like "PC"). In figure 23, "Clac" is misspelled.

9. Corrected drawing sheets in compliance with 37 CFR 1.121(d) and/or amendments to the specification in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

10. The Applicant is requested to further review the drawings and specification for any further minor informalities or inconsistencies.

### ***Specification***

11. The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

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12. The title of the invention is not sufficiently descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: --MAGNETIC APPARATUS AND METHOD FOR CATHETER GUIDANCE CONTROL AND IMAGING USING A VIRTUAL CATHETER TIP--.

17. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the temperature and magnetic field sensors at the distal end of the tool as set forth in claims 3, 4, 33, 40 and 41 and the connection via magnetic material as set forth in claim 43.

13. The disclosure is objected to because of the following informalities:

- a. At paragraph 7, line 5, it appears that "simulate" should be --stimulate--.
- b. At paragraph 13, line 2, "angioneogenesis" is misspelled.
- c. At paragraph 16, line 2, "that" should be --than--.
- d. Paragraphs 42-47 are missing periods.
- e. At paragraph 47, "fig." should be --FIG.--.
- f. At paragraphs 73 and 80, line 1, it appears that "1B" should be --1C--.
- g. At paragraph 84, lines 4 and 6, "318" should be --319--.
- h. At paragraph 84, lines 5 and 7, "319" should be --318--.
- i. At paragraph 92, line 2, "312" should be --321--.
- j. At paragraph 95, line 3, it appears that "FIG. 3" should be --FIG. 4--.

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- k. Recitations of reference characters relating to the drawings that end in letters should consistently end with either a capital or lowercase letter. For example, see paragraph 98 where both caps and lowercase letters are used.
- l. At paragraph 125, line 2, "138Z" (second recitation) should be --138X--.
- m. At paragraph 126, line 9, "fig." should be --FIG.--.
- n. At paragraph 128, line 4, "13B" (second recitation) should be --13C--.
- o. At paragraph 131, line 2, "319" should be --318--.
- p. At paragraph 131, line 3, "318" should be --319--.
- q. At paragraph 134, line 1, the sentence should be capitalized.
- r. At paragraph 141, line 5, "imaging assembly 391" is the wrong reference numeral.
- s. At paragraph 144, line 4, "378" should be --387--.
- t. At paragraph 148, line 17, --figure-- should be inserted before "17".
- u. At paragraph 158, line 3, "301" should be --305--.
- v. Paragraphs 156 and 161 repeat each other.
- w. At paragraph 162, line 9, "sagnetic" is misspelled.
- x. At paragraph 166, line 2, the sentence beginning "Magnetic field sensors" lacks a verb.
- y. At paragraph 199, section 11, "with the continues to use" is incorrectly worded.

Appropriate correction is required.

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14. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

15. Claims 1-20 and 32-37 are objected to because of the following informalities:
- a. At claim 1, line 8, "said tool distal end position" should be --the position of said distal end of said tool--.
  - b. At claim 32, line 1, "closed servo loop" should be --closed-loop servo--.
  - c. At claim 34, line 1, "control system" should be "system controller".
  - d. At claim 35, line 1, "circuit" should be --system--.
  - e. At claim 35, line 4, "organ" should be --organs--.
  - f. At claim 36, line 3, "organ" should be --organs--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 1-20 and 31- 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.



- a. At claim 1, line 1 and claim 39, line 1, the metes and bounds of the term “catheter-like” can not be determined.
- b. At claim 6, line 1 and claim 7, line 4, “said servo system” lacks antecedent basis. Note that a servo system is not previously recited in claim 1.
- c. At claim 7, line 4, “said sensory apparatus” lacks antecedent basis. Note that a sensory apparatus is not previously recited in claims 1 and 6.
- d. At claim 13, line 2, “said magnetic field sensors” lacks antecedent basis. Note that claim 1, line 5 states “one or more magnetic sensors” and that claims 3 and 4 state “one or more magnetic field sensors”. However, claim 13 does not depend from claims 3 or 4.
- e. At claim 14, line 3, word(s) are missing after “controller”.
- f. At claim 19, lines 2-3, “said magnetic field sensor” lacks antecedent basis. Note that claim 1, line 5 states “one or more magnetic sensors” and that claims 3 and 4 state “one or more magnetic field sensors”. However, claim 19 does not depend from claims 3 or 4.
- g. At claim 31, line 4, “said closed magnetic circuit” lacks antecedent basis. Note that a closed magnetic circuit is not previously recited in claim 31.
- h. At claim 34, line 2, word(s) are missing after “current for”.
- i. At claim 36, “said stereotactic framing”, “said position definition measurement data”, and “said sensory apparatus” all lack antecedent basis in the claims.

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- j. At claim 37, line 2, "said stereotactic frame" lacks antecedent basis. Note line 3 of the claim states "relative to frame of reference".
- k. At claim 47, "said temperature sensors" and "said magnetic field sensors" lack antecedent basis.
- l. At claim 50, "said three-dimensional magnetic field source" lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

19. Claims 1, 5-8, 11, 19, 39 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Blume et al. (US 2001/0021805). Blume discloses an apparatus (figure 3) for controlling the movement of a catheter-like tool to be inserted into the body of a patient, comprising; a magnetic field source (14) for generating a magnetic field outside the body; a tool (46) having a distal end (30) responsive to said magnetic field; one or more magnetic sensors (20, paragraph 35, lines 1-2; or paragraph 39, lines 12-25) to sense a magnetic field produced by said distal end; and a system controller (32) for

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controlling said magnetic field source to provide a position and command input to control said tool distal end position. In regards to claim 5, the apparatus comprises an operator interface unit (42). In regards to claim 6, a servo system (paragraph 32, lines 9-15) inherently comprises an input. This input is capable of being used to compensate for a dynamic position of an organ, thereby offsetting a response of the distal end to the magnetic field such that said distal end moves in substantial unison with said organ. In regards to claim 7, the correction data is capable of being generated by an auxiliary device (44) that provides correction data concerning said dynamic position of said organ, and wherein when said correction data are combined with measurement data derived from said magnetic sensors to offset a response of said servo system. In regards to claim 8, the auxiliary device is an x-ray device (paragraph 43, line 1). Note that Blume does not expressly disclose that the servo system compensates for a dynamic position of an organ; however, the apparatus of Blume is inherently capable of doing so when appropriately programmed. In regards to claim 11, the servo system is deemed to have an X-axis controller and amplifier, a Y-axis controller and amplifier, and Z-axis controller and amplifier so that it can be appropriately positioned. In regards to claim 19, the system controller is capable of being programmed to calculate a position error of said distal end using data from the magnetic sensor and to control said magnetic field source to correct the position error. In regards to claims 39 and 42 the limitations of these claims are met as stated above in regards to claims 1, 5-8, 11 and 19. Note that each element (14) may consist of more than one magnet (paragraph 42, line 5-7) and therefore each element can be considered to be a cluster of magnets.

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Furthermore, although the magnet field sources may not be directly facing one another they are considered to be substantially opposed to one another.

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hastings (US 6,148,823) in view of Colley et al. (US 4,354,501). Hastings discloses an apparatus (figure 5) for controlling movement of a tool having a distal end to be inserted in a body, comprising; a magnet source (34) configured in a cluster-like arrangement on a C-Arm (42) forming a closed magnetic circuit and generating a magnetic field; a tool having a distal end (column 6, lines 47-49) responsive to said magnetic field; and a system controller (column 5, line 10) for regulating said magnetic field to provide a position and command input to control said tool distal end position. Note that the magnets (36 and 38) can be considered to form a cluster-like arrangement. Hastings does not expressly disclose one or more piezoelectric rings at the distal end. However, Hastings describes the invention for use with a catheter and therefore it would be obvious to use any known catheter for a specific application with the apparatus of Hastings. Colley teaches one possible catheter that might be used with the apparatus of Hastings. The catheter includes a piezoelectric ring (30) for the purpose of detecting

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air emboli. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a tool having piezoelectric ring at the distal end as taught by Colley in the apparatus of Hastings in order to detect air emboli in a possible application of the apparatus of Hastings.

22. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) in view of Galel (US 5,492,131). Blume does not expressly disclose that the servo system is a closed-loop feedback servo system. Galel teaches that one type of servo system, a closed-loop servo system, can be used to provide automated advancement and positioning (abstract). Furthermore, it is well known in the art that one type of servo system is a closed-loop feedback servo system. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a well-known closed-loop feedback servo system as taught by Galel as the type of servo system in Blume in order to provide automated advancement and positioning.

23. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hastings (US 6,148,823) as modified by Colley et al. (US 4,354,501) as applied to claim 31 above, and further in view of Galel (US 5,492,131). Hastings as modified by Colley does not expressly disclose that a servo system (column 5, lines 7-9) is a closed-loop feedback servo system. Galel teaches that one type of servo system, a closed-loop servo system, can be used to provide automated advancement and positioning (abstract). Furthermore, it is well known in the art that one type of servo system is a

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closed-loop feedback servo system. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a well-known closed-loop feedback servo system as taught by Galel as the type of servo system in Hastings as modified by Colley in order to provide automated advancement and positioning.

24. Claims 4 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) in view of Abela et al. (US 5,769,843). Blume does not expressly disclose one or more magnetic field sensors at the distal end. Abela teaches magnetic field sensors (124) at the distal end of a tool for the purpose of providing highly accurate positioning (column 5, lines 9-10). It would have been obvious to one having ordinary skill in the art at the time of invention to have used magnetic field sensors as taught by Abela at the distal end of the tool of Blume in order to provide highly accurate positioning.

25. Claims 3, 12, 13, 40, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) as modified by Abela et al. (US 5,769,843) as applied to claims 4 and 41 above, and further in view of Kubota et al. (US 2001/0004215). In regards to claim 12 and 46, Blume discloses a calibration fixture (22) and the system controller is deemed to inherently include a communication controller as would be necessary to coordinate the incoming and outgoing data from element 32 to elements 16, 20, 34, 36, 40 and 42. Blume as modified by Abela does not expressly disclose one or more temperature sensors at the distal end of the tool.



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Kubota teaches using a temperature sensor paired with a magnetic field sensor for the purpose of compensating for the influence of the temperature on the magnetic sensor output (paragraph 5). It would have been obvious to one having ordinary skill in the art at the time of invention to have used temperature sensors as taught by Kubota at the distal end of the tool of Blume as modified by Abela in order to compensate for temperature variations in the magnetic sensor output.

26. Claims 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) as modified by Abela et al. (US 5,769,843) and Kubota et al. (US 2001/0004215) as applied to claims 3, 12, 13, 40, 46 and 47 above, and further in view of Colley et al. (US 4,354,501), Hastings (US 6,148,823), and Galel (US 5,492,131). Blume as modified by Abela and Kubota discloses the limitations of claims 33-37 as stated above in regards to claims 3, 12, 13, 40, 46 and 47 except for a C-arm, one or more piezoelectric rings, and a closed-loop servo system. In regards to claim 36, a set of fiduciary markers (24 in Blume) forms a stereotactic framing.

27. Hastings teaches magnetic poles (36 and 38) configured on a C-arm (42) for the purpose of providing a strong field for a given magnet cost (column 3, lines 39-42).

28. Blume as modified by Abela and Kubota describes the invention for use with a catheter and therefore it would be obvious to use any known catheter for a specific application with the apparatus of Blume as modified by Abela and Kubota. Colley teaches one possible catheter that might be used with the apparatus of Blume as

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modified by Abela and Kubota. The catheter includes a piezoelectric ring (30) for the purpose of detecting air emboli.

29. Galel teaches that one type of servo system, a closed-loop servo system, can be used to provide automated advancement and positioning (abstract). Furthermore, it is well known in the art that one type of servo system is a closed-loop feedback servo system.

30. It would have been obvious to one having ordinary skill in the art at the time of invention to have configured the magnet source of Blume as modified by Abela and Kubota on a C-arm as taught by Hastings in order to provide a stronger field for a given magnet. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a tool having piezoelectric ring at the distal end as taught by Colley in the apparatus of Blume as modified by Abela and Kubota in order to detect air emboli in a possible application of the apparatus of Hastings. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a well-known closed-loop feedback servo system as taught by Galel as the type of servo system in Blume as modified by Abela and Kubota in order to provide automated advancement and positioning.

31. Claims 9, 10, 14, 15, 17, 44, 45, 48 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) in view of Blume et al. (US 6,014,580). Blume ('805) discloses a joystick but does not expressly disclose a virtual tip or a virtual tip and calibration fixture controller. Blume ('580) teaches a virtual tip that



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can be used as an alternative to a joystick to control the movement of the distal end of a catheter (column 8, line 7-19). Blume ('580) further teaches a virtual tip and calibration fixture controller or processor (column 8, line 15). In regards to claims 15 and 48, the virtual tip provides tactile feedback in the form of the resistance to bending the virtual tip. It would have been obvious to one having ordinary skill in the art at the time of invention to have used a virtual tip and virtual tip and calibration fixture controller as taught by Blume ('580) in the apparatus of Blume ('805) in order to provide an alternative means to control the movement of the distal end of the catheter.

32. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hastings (US 6,148,823) as modified by Colley et al. (US 4,354,501) as applied to claim 31 above, and further in view of Blume et al. (US 6,014,580). Hastings as modified by Colley does not expressly disclose a virtual tip. Blume teaches a virtual tip that can be used to control the movement of the distal end of a catheter (column 8, line 7-19). It would have been obvious to one having ordinary skill in the art at the time of invention to have used a virtual tip as taught by Blume in the apparatus of Hastings as modified by Colley in order to control the movement of the distal end of the catheter.

33. Claims 16, 18, 20 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) as modified by Blume et al. (US 6,014,580) as applied to claims 9, 10, 14, 15, 17, 44, 45, 48 and 50 above, and further in view of Green (US 5,808,665). Blume as modified by Blume does not expressly

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disclose that the system controller provides a tactile feedback response to the virtual tip. Green teaches that controlled tactile feedback can be used in a virtual surgical instrument to give the operator a strong sense of presence (column 11, lines 12-22). It would have been obvious to one having ordinary skill in the art at the time of invention to have used a virtual surgical instrument that can provide controlled tactile feedback as taught by Green in the apparatus of Blume as modified by Blume in order to provide a strong sense of presence to the operator.

34. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al. (US 2001/0021805) in view of Hastings (US 6,148,823). Blume does not expressly disclose that the clusters of poles are connected with magnetic material. Hastings teaches magnetic poles can be connected via magnetic material for the purpose of providing a strong field for a given magnet cost (column 3, lines 39-42). It would have been obvious to one having ordinary skill in the art at the time of invention to have connected the clusters of poles of Blume with magnetic material as taught by Hastings in order to provide a stronger field for a given magnet.

### ***Double Patenting***

35. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

36. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

37. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

38. Claims 1, 2, 5-9, 11, 14-17 and 20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 8-12, 14, 17-20 and 24 of copending Application No. 10/690,472. Although the conflicting claims are not identical, they are not patentably distinct from each other

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because the copending application recites all of the claim limitations of the instant application. Because the copending claims contain more limitations than the instant claims, the instant claims are broader than copending claims. The copending claims “anticipate” the broader instant claims and therefore the two sets of claims are not patentably distinct from each other. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

39. Instant claims 1 and 2 correspond to copending claims 1 and 2, respectively. Instant claims 5-9 correspond to copending claims 8-12, respectively. Instant claim 11 corresponds to copending claim 14. Instant claims 14-17 correspond to copending claims 17-20, respectively. Instant claim 20 corresponds to copending claim 24.

40. Claims 1, 2, 6, 7, 9, 31 and 32 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 35, 36 and 42 of copending Application No. 10/690,472. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application recites all of the claim limitations of the instant application. Because the copending claims contain more limitations than the instant claims, the instant claims are broader than copending claims. The copending claims “anticipate” the broader instant claims and therefore the two sets of claims are not patentably distinct from each other. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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41. Instant claims 1 and 2 correspond to copending claims 35 and 36, respectively. Instant claims 6 and 7 correspond to copending claims 39 and 40, respectively. Instant claim 9 corresponds to copending claim 42. Instant claims 31 and 32 correspond to copending claims 35 and 36, respectively.

### ***Conclusion***

42. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Apanius whose telephone number is (571) 272-5537. The examiner can normally be reached on Mon-Fri 8:30am-5pm.

43. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

44. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
CHARLES MARMOR  
PRIMARY EXAMINER

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